accomplish the above and that can provide a friendly user interface for smaller (e.g., hand-held) devices. The present invention provides these advantages and others not specifically mentioned above but described in the sections to follow.

[0016] The preferred embodiment of the present invention pertains to a flip-style user interface for controlling a display on a device such as a computer system, and a method thereof. In the present embodiment, layers of flexible material are coupled along one edge in a stack that is coupled to the device. A user flips the layers (e.g., leaves) using a finger or thumb in a manner similar to the way pages in a book are flipped.

[0017] In the present embodiment, the individual leaves are monitored to determine whether they are separated or touching, or bent or straight (relaxed). When the leaves are separated or bent, this is translated into changes in the display. For example, a different page in an electronic document, calendar, or address book can be displayed as the user moves (separates or bends) the leaves of the user interface.

[0018] In one embodiment, separation of the leaves is detected by electricity-conducting pads (e.g., a contact or switch), positioned on the top and bottom surfaces of each leaf such that a pad on the surface of one leaf is in electrical contact with a corresponding pad on the facing surface of the adjacent leaf. The pads are separated (e.g., the switch is opened) when the leaves are separated, breaking the electrical connection and allowing the separation to be detected.

[0019] In another embodiment, bending of the leaves is detected, either directly or indirectly, using a strain gauge, an accelerometer, an optical sensor, or other such instruments. The amount of bending can also be detected.

[0020] In various embodiments, the rate at which the leaves are moved, the order in which they are moved (e.g., front to back, or vice versa), and the amount of deflection imparted to the leaves are used to control various aspects of the display, such as the number of pages skipped between pages displayed in an electronic document, or how quickly the display image is changed.

[0021] In one embodiment, the amount of time that the leaves are separated provides an indication that, for example, a page in an electronic document should be displayed. That is, a user can rapidly flip the flexible leaves of the present invention user interface to move deeper into a multi-page electronic document; when the user pauses for a predetermined amount of time, the multi-page document would be opened to display the page at the position corresponding to where the user stopped flipping.

[0022] In one embodiment, the flip-style user interface can be coupled to the housing of a computer system or similar device. This embodiment is well-suited to portable computer systems and other hand-held devices. In another embodiment, the flip-style user interface can be coupled to a peripheral device that is in turn coupled to a computer system. For example, the flip-style interface can be coupled to the housing of a mouse, and so this embodiment is well-suited for desktop computer systems and similar devices.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] **FIG. 1** is a top side perspective view of an exemplary portable computer system that can be used in accordance with one embodiment of the present invention.

[0024] **FIG. 2** is a bottom side perspective view of the portable computer system of **FIG. 1**.

[0025] **FIG. 3** is an exploded view of the components of the portable computer system of **FIG. 1**.

[0026] **FIG. 4A** illustrates a flip interface coupled to a computer system in accordance with one embodiment of the present invention.

[0027] **FIG. 4B** is a side perspective view of a flip interface coupled to a computer system in accordance with one embodiment of the present invention.

[0028] **FIG. 5** illustrates a flip interface coupled to a peripheral device in accordance with one embodiment of the present invention.

[0029] **FIG. 6** is a block diagram of one embodiment of a portable computer system in accordance with the present invention.

[0030] **FIG. 7** is a block diagram of one embodiment of a computer system in accordance with the present invention.

[0031] **FIG. 8** is a flowchart of the steps in a process for controlling an on-screen display using a flip interface in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0032] Reference will now be made in detail to the preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings. While the invention will be described in conjunction with the preferred embodiments, it will be understood that they are not intended to limit the invention to these embodiments. On the contrary, the invention is intended to cover alternatives, modifications and equivalents, which may be included within the spirit and scope of the invention as defined by the appended claims. Furthermore, in the following detailed description of the present invention, numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will be obvious to one of ordinary skill in the art that the present invention may be practiced without these specific details. In other instances, well-known methods, procedures, components, and circuits have not been described in detail so as not to unnecessarily obscure aspects of the present invention.

[0033] Some portions of the detailed descriptions that follow are presented in terms of procedures, logic blocks, processing, and other symbolic representations of operations on data bits within a computer memory. These descriptions and representations are the means used by those skilled in the data processing arts to most effectively convey the substance of their work to others skilled in the art. A procedure, logic block, process, etc., is here, and generally, conceived to be a self-consistent sequence of steps or instructions leading to a desired result. The steps are those requiring physical manipulations of physical quantities. Usually, though not necessarily, these quantities take the form of electrical or magnetic signals capable of being